

October 22, 1963

Linear phasolver Measuring Engine

[REDACTED]

Phase I was completed with a very successful demonstration of the non-ambiguous feature of the phasolver. The least count was 0.2 microns and the electronics performed beautifully. The crucial cross over from fine count to coarse count worked consistently with no jitter or uncertainty.

Since the existing pattern accuracy was questionable no attempt was made to determine if the 0.2 micron steps were equal or if they were actually 0.2 microns. This was principally an electronics prove out phase.

STATINTL

Phase II requires a new pattern to be made and this will take some time. Pattern bids are due this week from [REDACTED]. Levi has bid on the coupler only. Pattern delivery will pace the Phase II work. [REDACTED] will not know how much Phase II schedule slippage there will be until they receive the pattern delivery quotes. They expect to place the order for the patterns in the first week in Nov.

STATINTL

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An in-house study of error sources in their rotary phasolver is yielding fruitful information for this project. Their pattern and coupler design was guided by this new data. They are considering operating the pattern and coupler with .001" to .002" gap between them to reduce fringing error.

The driver pattern will be 10" long and the coupler will be 27" long.

STATINTL

It is time to start thinking about the follow on action. I think [REDACTED] should be asked to consider ways of adding the coarse count after the fine count demonstration. Also perhaps they should be asked to look at one of your existing machines to determine whether they could incorporate a linear phasolver into it.

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